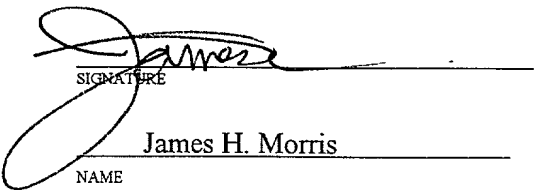



FORM PTO-1390 (REV. 10-2000)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER S1022/8246	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>09/831792</b>	
INTERNATIONAL APPLICATION NO. PCT/FR99/02564		INTERNATIONAL FILING DATE 21 October 1999		PRIORITY DATE CLAIMED 23 October 1998	
TITLE OF INVENTION SELF-ADHESIVE ELECTRONIC CIRCUIT					
APPLICANT(S) FOR DO/EO/US ROYER, Guillaume					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371. 3. <input type="checkbox"/> This is an express request to promptly begin national examination procedures (35 U.S.C. 371(f)). 4. <input type="checkbox"/> The US has been elected by the expiration of 19 months from the earliest claimed priority date (PCT Article 31). 5. <input type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)). a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). b. <input type="checkbox"/> has been transmitted by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). a. <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). b. <input type="checkbox"/> has been transmitted by the International Bureau 7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)). a. <input type="checkbox"/> are attached hereto (required only if not transmitted by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(C)(5)). 					
Items 11. To 16. Below concern document(s) or information included:					
11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input type="checkbox"/> A FIRST preliminary amendment. 14. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A change of power of attorney and/or address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821-1.825. 18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 20. <input checked="" type="checkbox"/> Other items or information: Title page of WO 00/252266 Petition to Revive an Unintentionally Abandoned Patent Application					
Express Mail Label No. EL844511821US Date Mailed: May 11, 2001					

U.S. APPLICATION NO. (If known, see 37 CFR 1.51) <b>09/831792</b>		INTERNATIONAL APPLICATION PCT/FR 99/02564		ATTORNEY'S DOCKET NUMBER S1022/8246	
21. <input checked="" type="checkbox"/> The following fees are submitted: <b>BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):</b> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1000.00  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$860.00  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee paid to USPTO (37 CFR 1.445(a)(2)), paid to USPTO \$710.00  International preliminary examination fee paid to USPTO (37 CFR 1.482) But all claims did not satisfy provisions of PCT Article 33(1)-(4) \$690.00  International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 <b>ENTER APPROPRIATE BASIC FEE AMOUNT = \$860.00</b>				<b>CALCULATIONS</b> <small>PTO USE ONLY</small>	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$	
<b>CLAIMS</b>	<b>NUMBER FILED</b>	<b>NUMBER EXTRA</b>	<b>RATE</b>		
Total Claims	8 - 20 =		X \$18.00	\$	
Independent Claims	1 - 3 =		X \$80.00	\$	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+\$270.00	\$	
PETITION TO REVIVE FEE				\$1240.00	
<b>TOTAL OF ABOVE CALCULATIONS</b>				=	\$
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$	
<b>SUBTOTAL</b>				=	\$
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
<b>TOTAL NATIONAL FEE</b>				=	\$2100.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate coversheet (37 CFR 3.28, 3.31). \$40.00 per property +				\$	
<b>TOTAL FEES ENCLOSED</b>				=	\$2100.00
				Amount to be: refunded	\$
				charged	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$ 2,100.00 to cover the above fees is enclosed.					
b. <input type="checkbox"/> Please charge my Deposit Account No. _____ In the amount of \$ _____ To cover the above fees. A duplicate copy of this sheet is enclosed.					
c. <input checked="" type="checkbox"/> The commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 23/2825. A duplicate of this sheet is enclosed.					
d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.					
<b>NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b) must be filed and granted to restore the application to pending status.</b>					
SEND ALL CORRESPONDENCE TO					
WOLF, GREENFIELD & SACKS, P.C. 600 Atlantic Avenue Boston, Massachusetts 02210 Tel: (617) 720-3500					
<div style="text-align: center;">         SIGNATURE        James H. Morris        NAME        34,681        REGISTRATION NO     </div>					
<div style="text-align: center;">         CUSTOMER NUMBER <b>23628</b> </div>					

Express Mail Label No. EL844511821US  
Attorney's Docket No. S1022/8246  
Date Mailed: May 11, 2001

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: ROYER, Guillaume  
Serial No.: Unassigned  
Filing Date: Herewith  
For: SELF-ADHESIVE ELECTRONIC CIRCUIT

Examiner: Unassigned  
Art Unit: Unassigned

Commissioner for Patents  
Box Patent Application (DO/EO/US)  
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir/Madam:

Prior to examination, please amend the above-identified application as follows:

IN THE SPECIFICATION

On page 1, before line 2, insert --1. Field of the Invention--;

On page 1, before line 4, insert --2. Discussion of the Related Art--;

On page 1, before line 17, insert --Summary Of The Invention--;

On page 2, before line 11, insert --Brief Description Of The Drawings--;

On page 2, before line 27, insert --Detailed Description--;

On page 5, after line 18, insert the following paragraphs:

--Such alterations, modifications, and improvements are intended to be part of this disclosure, and are intended to be within the spirit and the scope of the present invention. Accordingly, the foregoing description is by way of example only and is not intended to be limiting. The present invention is limited only as defined in the following claims and the equivalents thereto.

What is claimed is:--;

IN THE CLAIMS

1. (Amended) An electronic circuit including a planar base, an antenna attached on a first surface of the base, and a chip connected to the antenna, characterized in that a double faced adhesive is glued on one of the base surfaces, a slot being made in the double faced adhesive and the chip being arranged at least partially in this slot.

2. (Amended) The electronic circuit of claim 1, wherein the chip is glued on the first surface of the base and is connected to the antenna by connection wires, the wires and the chip being covered with a drop of resin.

3. (Amended) The electronic circuit of claim 1, wherein the etched surface of the chip faces the first surface of the base, and the chip is connected to the antenna by welding beads.

4. (Amended) The electronic circuit of claim 1, wherein the etched surface of the chip faces the back of the first surface of the base, the chip is placed in a slot made through the base, and the chip is connected to the antenna by welding beads, the chip being attached to the base by a drop of resin.

5. (Amended) The electronic circuit of claim 1, wherein the etched surface of the chip faces the back of the first surface of the base and the chip is connected to the antenna by welding beads located in connection slots going through the base, the chip being attached to the base by a drop of resin.

6. (Amended) The electronic circuit of claim 1, wherein the base is made of a flexible sheet.

7. (Amended) The electronic circuit of claim 1, wherein the surface of the base which does not receive the double faced adhesive is provided to receive the printing of a pattern, of a text or of a code.

8. (Amended) A method of manufacturing the circuit of claim 1, wherein the attachment of the double faced adhesive on the base includes the steps of:

forming a rectangle of double faced adhesive including a slot,  
gluing the adhesive rectangle on a packaging protective film,  
ungluing the adhesive rectangle from the protective film, and assembling it on the base.

REMARKS

This is a preliminary amendment in which the claims have been amended to place them in better form before initial examination by the Examiner. Favorable action is hereby earnestly solicited.

Respectfully submitted,

By: 

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Registration No. 34,681

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Boston, MA 02210

Tel. (617)720-3500

Attorneys for the Applicant(s)

Attorney's Docket No. S1022/8246

Dated: May 11, 2001

Express Mail Label No. EL844511821US  
Attorney's Docket No. S1022/8246  
Date Mailed: May 11, 2001

AMENDED CLAIMS SHOWING THE AMENDMENTS

1. (Amended) An electronic circuit including a planar base [(14)], an antenna [(16)] attached on a first surface of the base, and a chip [(12)] connected to the antenna, characterized in that a double faced adhesive [(20)] is glued on one of the base surfaces, a slot [(21)] being made in the double faced adhesive and the chip being arranged at least partially in this slot.

2. (Amended) The electronic circuit of claim 1, [characterized in that] wherein the chip is glued on the first surface of the base and is connected to the antenna by connection wires [(18)], the wires and the chip being covered with a drop of resin [(19, 22)].

3. (Amended) The electronic circuit of claim 1, [characterized in that] wherein the etched surface of the chip faces the first surface of the base, and the chip is connected to the antenna by welding beads [(26)].

4. (Amended) The electronic circuit of claim 1, [characterized in that] wherein the etched surface of the chip faces the back of the first surface of the base, the chip is placed in a slot [(21)] made through the base, and the chip is connected to the antenna by welding beads [(26)], the chip being attached to the base by a drop of resin [(22)].

5. (Amended) The electronic circuit of claim 1, [characterized in that] wherein the etched surface of the chip faces the back of the first surface of the base and the chip is connected to the antenna by welding beads [(26)] located in connection slots [(25)] going through the base [(14)], the chip being attached to the base by a drop of resin [(22)].

6. (Amended) The electronic circuit of [any of the preceding claims, characterized in that] claim 1, wherein the base [(14)] is made of a flexible sheet.

7. (Amended) The electronic circuit of [any of the preceding claims, characterized in that] claim 1, wherein the surface of the base which does not receive the double faced adhesive is provided to receive the printing of a pattern, of a text or of a code [(38)].

8. (Amended) A method of manufacturing the circuit of claim 1, [characterized in that] wherein the attachment of the double faced adhesive on the base includes the steps of:  
forming a rectangle of double faced adhesive [(20)] including a slot [(21)],  
gluing the adhesive rectangle on a packaging protective film [(24)],  
ungluing the adhesive rectangle from the protective film, and assembling it on the base [(14)].

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SELF-ADHESIVE ELECTRONIC CIRCUIT

The present invention relates to the attaching of electronic circuits.

Labels bearing indications readable by a computer peripheral, like a bar code readable by an  
5 optical analyzer, have recently appeared. Such a system enables fast identification of a labeled  
product. For a label to be read, it has to be in front of the analyzer, which implies a handling of  
the product, the label of which is desired to be read. Finally, the information contained in the bar  
code cannot be modified.

10 An electronic label including an antenna connected to a chip enables, by means of an  
electromagnetic antenna coupled to a computer system, reading and writing information in the  
chip. It is not necessary to have the electronic label face the antenna for the information  
exchange to be possible. This type of label has many advantages, since a large amount of  
immediately rewritable information can be stored therein, without having to handle the object,  
the label of which is being read. However, conventional electronic devices including a chip  
15 generally are too stiff, too thick and too expensive to enable making a robust, inexpensive  
electronic label of small bulk. Further, attaching the label to the object always is a problem.

The present invention enables producing in a simple way and with a low cost thin flexible  
self-adhesive electronic labels which are easy to lay, by machine or by hand.

20 To achieve this object, the present invention provides an electronic circuit including a planar  
base, an antenna attached on a first surface of the base, a chip connected to the antenna and a  
double faced adhesive glued on one of the base surfaces, a slot being made in the double faced  
adhesive and the chip being arranged at least partially in this slot.

25 According to an embodiment of the present invention, the chip is glued on the first surface of  
the base and is connected to the antenna by connection wires, the wires and the chip being  
covered with a drop of resin.

According to an embodiment of the present invention, the etched surface of the chip faces  
the first surface of the base, and the chip is connected to the antenna by welding beads.

30 According to an embodiment of the present invention, the etched surface of the chip faces  
the back of the first surface of the base, the chip is placed in a slot made through the base, and  
the chip is connected to the antenna by welding beads, the chip being attached to the base by a  
drop of resin.

35 According to an embodiment of the present invention, the etched surface of the chip faces  
the back of the first surface of the base and the chip is connected to the antenna by welding  
beads located in connection slots going through the base, the chip being attached to the base by a  
drop of resin.

According to an embodiment of the present invention, the base is formed of a flexible sheet.



According to an embodiment of the present invention, the surface of the base which does not receive the double-faced adhesive is provided to receive the printing of a pattern, of a text or of a code.

The present invention also provides a method of manufacturing an electronic circuit such as mentioned hereabove, which includes the steps of: forming a rectangle of double faced adhesive including a slot, gluing the adhesive rectangle on a packaging protective film, ungluing the adhesive rectangle from the protective film, and assembling it on the base.

The foregoing objects, features and advantages of the present invention will be discussed in detail in the following non-limiting description of specific embodiments in connection with the accompanying drawings, wherein:

Fig. 1 shows a top view of a label according to a first embodiment of the present invention;

Fig. 2 shows a cross-sectional view of the label of Fig. 1;

Fig. 3 shows a top view of a label made according to a second embodiment of the present invention;

Fig. 4 shows a cross-sectional view of the label of Fig. 3;

Fig. 5 shows a top view of a label made according to a third embodiment of the present invention;

Fig. 6 shows a cross-sectional view of the label of Fig. 5;

Fig. 7 shows a top view of a label made according to a fourth embodiment of the present invention;

Fig. 8 shows a cross-sectional view of the label of Fig. 7;

Fig. 9 shows a cross-sectional view of a label made according to a fifth embodiment of the present invention;

Fig. 10 shows a method of manufacturing self-adhesive electronic labels according to an embodiment of the present invention; and

Fig. 11 schematically shows a final packaging of labels according to the present invention.

The same references designate same elements in the various drawings. Figs. 1 and 2 show in top view and in cross-section a label 10 according to a first embodiment of the present invention. This label includes a chip 12 attached by a glue layer 13 on a first surface of a base 14. An antenna 16 is also attached to the first surface of base 14. Chip 12 is electronically connected to antenna 16 by connection wires 18. The chip and the wires are caught in a drop of protection resin 19. In the following description, a "double faced adhesive" will designate a segment of a plastic tape conventionally processed to be adhesive on its two surfaces, on a strip of solid glue. A first surface of a double faced adhesive 20 pierced by a slot 21 is glued on the first surface of base 14 to cover the first surface except for the vicinity of resin drop 19, located in slot 21. A strippable sheet 24 covers the second surface of double-faced adhesive 20.

Chip 12 may be glued to the base by means of a glue, epoxy, or other, and connection wires 18 may be attached by a conventional wiring machine. Antenna 16 may be formed on the base in

a known manner by metal deposition followed by an etching. The resin drop can be formed by coating, by casting, or by cloisonné. Base 14 is made of a flexible material of low thickness, for example, a piece of a polyester sheet.

5 The double faced adhesive is thicker than the resin drop and it forms both the adhesive portion of the self-adhesive label and the protective housing of chip 12. The double-faced adhesive is made in a slightly resilient flexible material so that the self-adhesive label is adapted to being glued on a non-planar surface, and is resistant to vibrations and shocks. The glue coating the double-faced adhesive is a joiner's glue enabling a lasting and reliable bond. Double faced adhesives currently available for sale that may be used, for example, are sold by 3M  
10 Company under trade name VHB.

As an example, the thickness of base 14 may be 75  $\mu\text{m}$ , the thickness of antenna 16 may be 17  $\mu\text{m}$ , the thickness of glue 13 may be 20  $\mu\text{m}$ , the thickness of chip 12 may be 180  $\mu\text{m}$ , the thickness of drop 19 may be 300  $\mu\text{m}$ , and the thickness of double faced adhesive 20 may be 400  $\mu\text{m}$ . Thus, according to this embodiment, label 10 has a thickness of approximately 500  $\mu\text{m}$ . The thickness of double faced adhesive 20 here is much greater than the height of drop 19 so that a variation of the height of the drop upon its forming may be tolerated.

Figs. 3 and 4 show in top view and in cross-section a label 10 according to a second embodiment of the present invention. In this embodiment, connection wires 18 and chip 12 are protected by a resin drop 22 formed by filling slot 21 with resin. The forming of drop 22 here is faster than according to the previous embodiment. Indeed, the methods of forming drop 19 discussed in relation with Figs. 1 and 2 are slow, whereas it is here sufficient to fill slot 21 with resin. In this embodiment, in addition to the previously mentioned functions, slot 21 through the double-faced adhesive is used to limit the spreading of the resin, which can be chosen to be very fluid.

25 Figs. 5 and 6 show in top view and in cross-section a label 10 according to a third embodiment of the present invention. The front surface or etched surface of chip 12, that is, the surface having received the various processings intended for the forming of an integrated circuit in planar technology, is placed against the first surface of support 14 according to a so-called flip-chip assembly mode, to be electrically connected to antenna 16 via welding beads 26. A  
30 resin collar 23 is formed on the circumference of the chip to seal chip 12 on base 14. This embodiment requires an assembly by welding beads, which is delicate to implement, but it enables decreasing the thickness of label 10.

As an example, it is assumed that the welding beads have a substantially constant thickness of 20  $\mu\text{m}$ , and that an allowed variation of 10  $\mu\text{m}$  only can be provided for the depth of slot 21.  
35 With a thickness of chip 12 of 180  $\mu\text{m}$ , a double-faced adhesive of a 210- $\mu\text{m}$  thickness can be used. If the total thickness of base 14 and of antenna 16 is close to 95  $\mu\text{m}$ , a label 10 with a thickness close to 300  $\mu\text{m}$  only is obtained.

Figs. 7 and 8 show in top view and in cross-section a label 10 according to a fourth embodiment of the present invention. Antenna 16 here is located on the surface of base 14 which is not covered by double faced adhesive 20. Further, base 14 is crossed by a slot 21 which substantially prolongs slot 21 of double-faced adhesive 20. Chip 12 is located in slot 21, with its etched surface facing the back of antenna 16 and being connected to the back of the antenna by welding beads 26. Slot 21, in base 14 and double faced adhesive 20, is filled with a drop of resin 22. This embodiment requires a slot 21 of the base and a connection by welding beads, but it enables decreasing the thickness of label 10.

As an example, if the thickness of the base is 75  $\mu\text{m}$ , the thickness of the antenna is close to 20  $\mu\text{m}$ , the thickness of chip 12 is 180  $\mu\text{m}$  and the thickness of welding beads 26 is approximately 20  $\mu\text{m}$ , then an adhesive of approximately 135  $\mu\text{m}$  can be used, to obtain a label 10 of a thickness close to 230  $\mu\text{m}$ . This thickness is substantially that of a conventional non-electronic self-adhesive label.

Fig. 9 shows in cross-section a label 10 according to a fifth embodiment of the present invention. Antenna 16 is located on the same surface of base 14 as in Figs. 7 and 8. Chip 12 is located in slot 21 of double faced adhesive 20, its etched surface facing the back of antenna 16, and being connected to the back of the antenna by welding beads 26 through connection slots 25 made in base 14.

Fig. 10 illustrates a method of manufacturing self-adhesive labels according to the embodiment described in relation with Figs. 3 and 4. A series of antennas (not shown) has been formed on a mechanically indexed strip 28 intended for being cut into a series of bases. A chip 12 has been glued at the level of each antenna on the indexed strip, which is provided to a laminating machine 30. The machine also receives a double faced adhesive 20 covered with a protective film 24 on both its surfaces. A sensor 32 spots the position of each chip 12 and controls a punch 34 to form, in the double faced adhesive, a slot 21 corresponding to this position. Protective film 24 is removed from a first surface of cut-up double-faced adhesive 20, which is laminated and glued on the indexed strip. Each chip 12 is then connected to the corresponding antenna by connection wires (not shown), after which slot 21 is filled with drops of resin (not shown). After assembly of the labels, the indexed strip is cut to form the labels, each label is magnetically tested and the functional labels are separated from their protective film to be placed on a packaging strip.

An alternative manufacturing method includes using rectangles of double faced adhesive 20 which are precut (separated from one another and comprising slot 21), for example, by the adhesive manufacturer. Double faced adhesive rectangles 20 are then delivered maintained together by a strip of protective film 24, and they are unglued one by one from the protective film, by a machine or by an operator, to be glued to the bases. The labels can then be manufactured according to the embodiment of Figs. 1 and 2. In this case, connections 18 and resin drop 19 of protection of the chip and connections will be formed before gluing the double

faced adhesive on base 14. The electromagnetic testing of each connected chip 12 may also be performed before gluing the double faced adhesive, which implies that a rejected defective component represents a smaller loss. The labels of Figs. 3 to 9 may also be formed according to this alternative.

- 5 Fig. 11 shows a packaging strip 36 comprising labels 10, the second surface of which has been covered with a logo or a code 38, ready to be sold.

Of course, the present invention is likely to have various alterations, modifications, and improvements which will readily occur to those skilled in the art. In the embodiment of Figs. 1 and 2, a cavity may for example be formed in the upper half of the thickness of base 14 to  
 10 receive chip 12, and thus decrease the label thickness and facilitate the forming of drop 19. Further, the surface of the base which is not glued to the double-faced adhesive may be painted or printed or covered with an easily paintable or printable material. Moreover, the preceding descriptions relate to self-adhesive labels, but the present invention may also apply to any self-  
 15 adhesive electronic circuit, for example, a sensor. In this regard, protection resin 22, which is conventionally opaque, may be replaced in the embodiment of Figs. 7 and 8 with a transparent protection resin if the chip includes light-sensitive circuits such as photo-voltaic or charge coupling circuits. Resin drop 22 may then be lens-shaped for a better reception of the light by the chip.

TEOST 25 FEB 50

CLAIMS

1. An electronic circuit including a planar base (14), an antenna (16) attached on a first surface of the base, and a chip (12) connected to the antenna, characterized in that a double faced adhesive (20) is glued on one of the base surfaces, a slot (21) being made in the double faced adhesive and the chip being arranged at least partially in this slot.

2. The electronic circuit of claim 1, characterized in that the chip is glued on the first surface of the base and is connected to the antenna by connection wires (18), the wires and the chip being covered with a drop of resin (19, 22).

3. The electronic circuit of claim 1, characterized in that the etched surface of the chip faces the first surface of the base, and the chip is connected to the antenna by welding beads (26).

4. The electronic circuit of claim 1, characterized in that the etched surface of the chip faces the back of the first surface of the base, the chip is placed in a slot (21) made through the base, and the chip is connected to the antenna by welding beads (26), the chip being attached to the base by a drop of resin (22).

5. The electronic circuit of claim 1, characterized in that the etched surface of the chip faces the back of the first surface of the base and the chip is connected to the antenna by welding beads (26) located in connection slots (25) going through the base (14), the chip being attached to the base by a drop of resin (22).

6. The electronic circuit of any of the preceding claims, characterized in that the base (14) is made of a flexible sheet.

7. The electronic circuit of any of the preceding claims, characterized in that the surface of the base which does not receive the double faced adhesive is provided to receive the printing of a pattern, of a text or of a code (38).

8. A method of manufacturing the circuit of claim 1, characterized in that the attachment of the double faced adhesive on the base includes the steps of:

forming a rectangle of double faced adhesive (20) including a slot (21),

gluing the adhesive rectangle on a packaging protective film (24),

ungluing the adhesive rectangle from the protective film, and assembling it on the base (14).

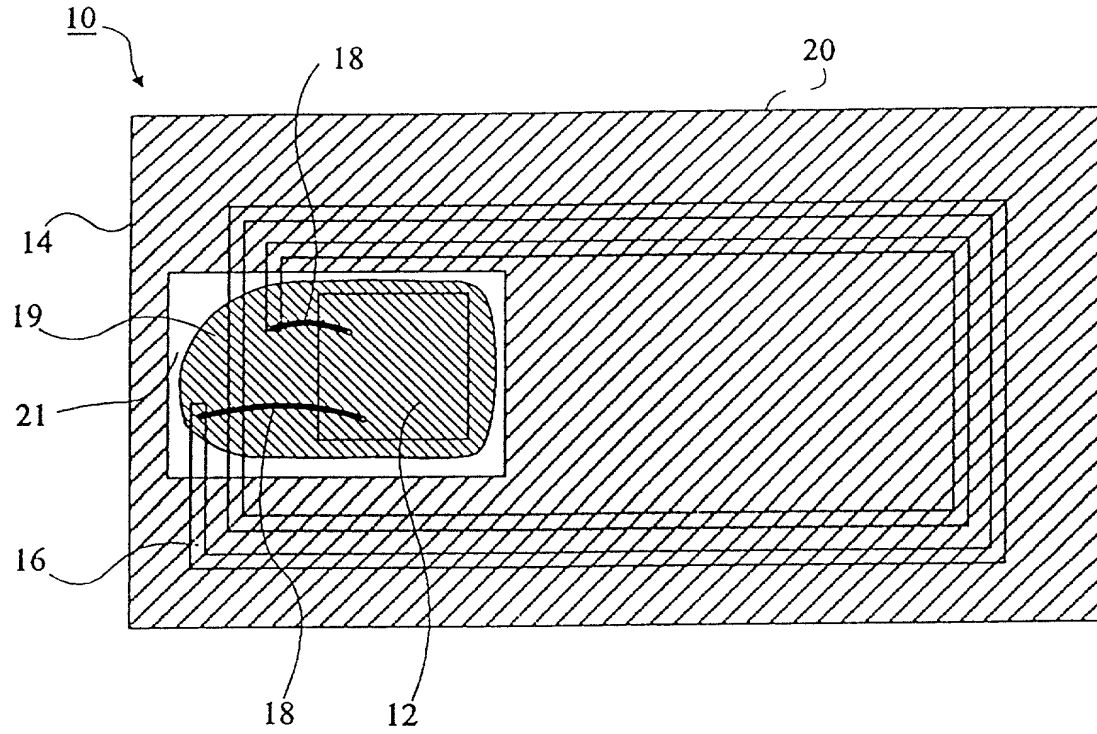


Fig 1

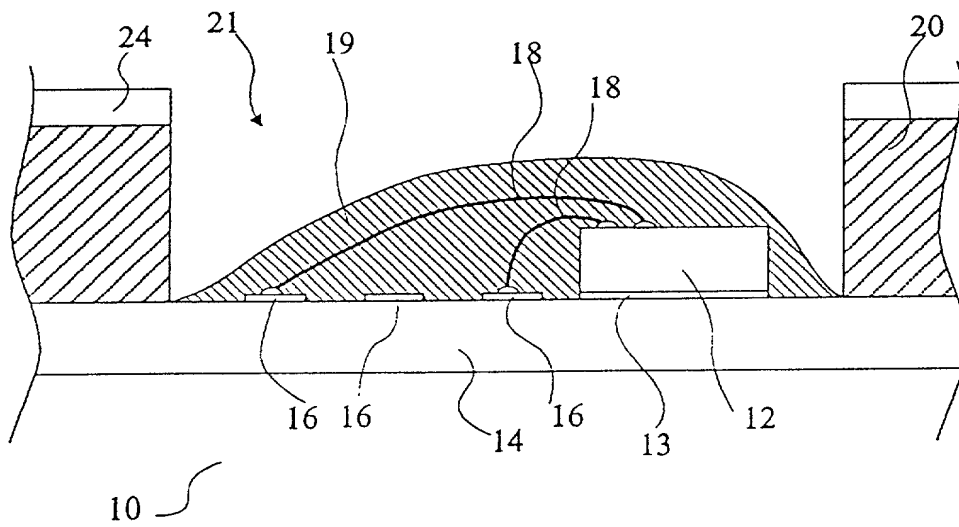


Fig 2

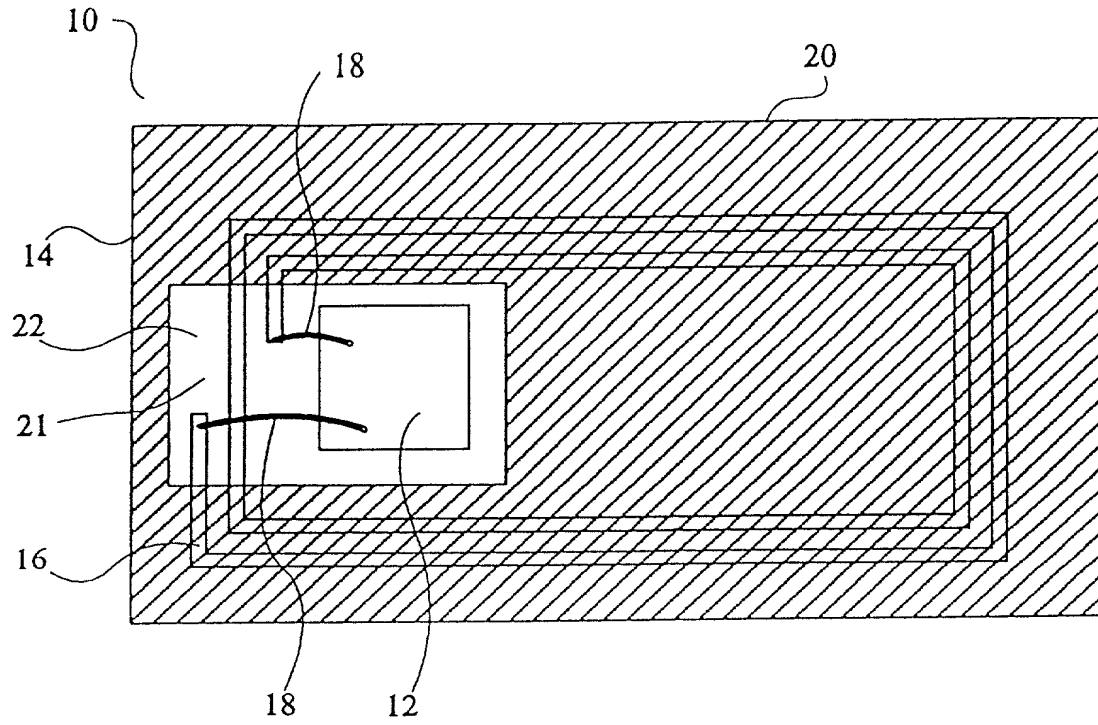


Fig 3

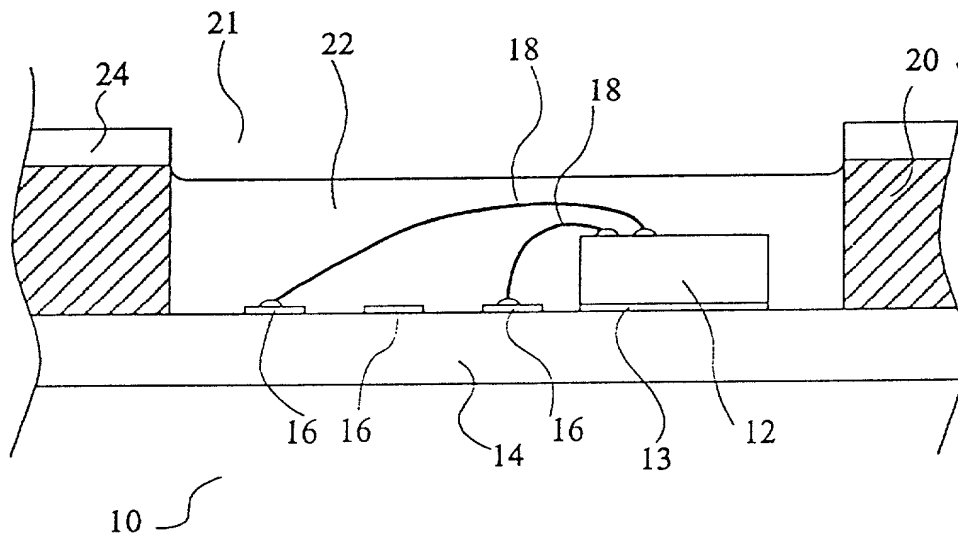


Fig 4

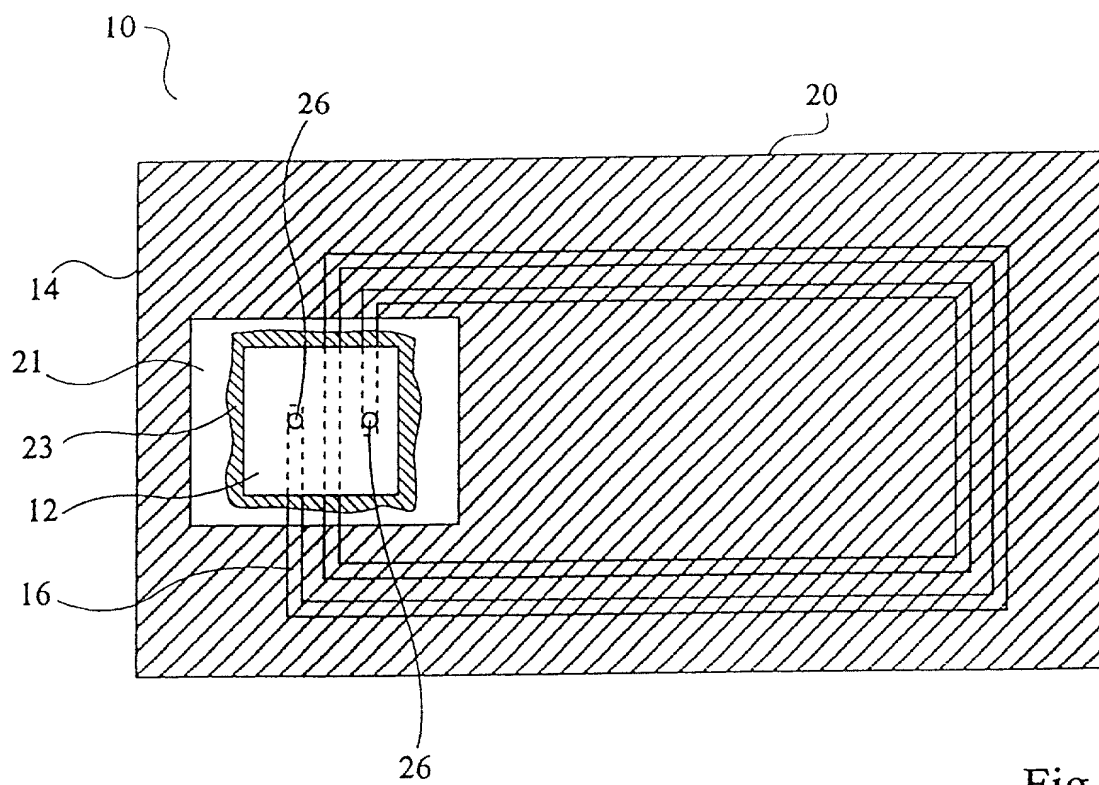


Fig 5

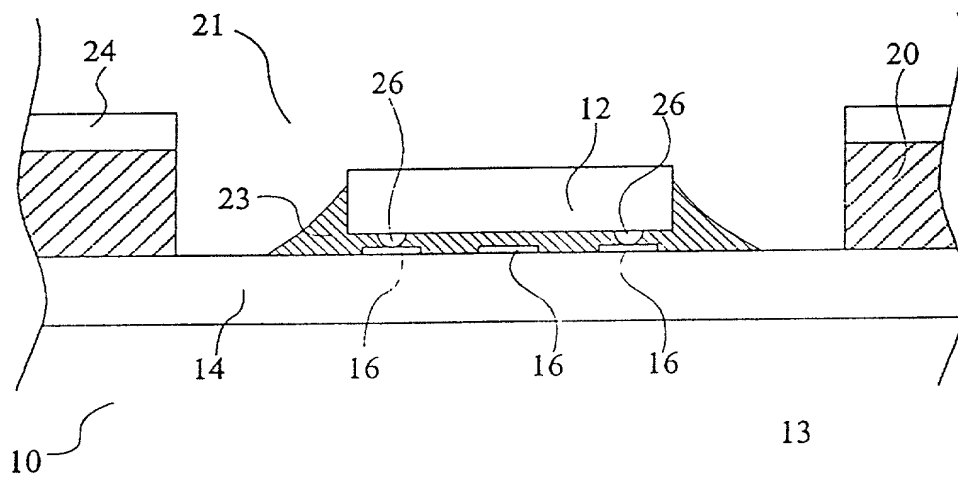


Fig 6



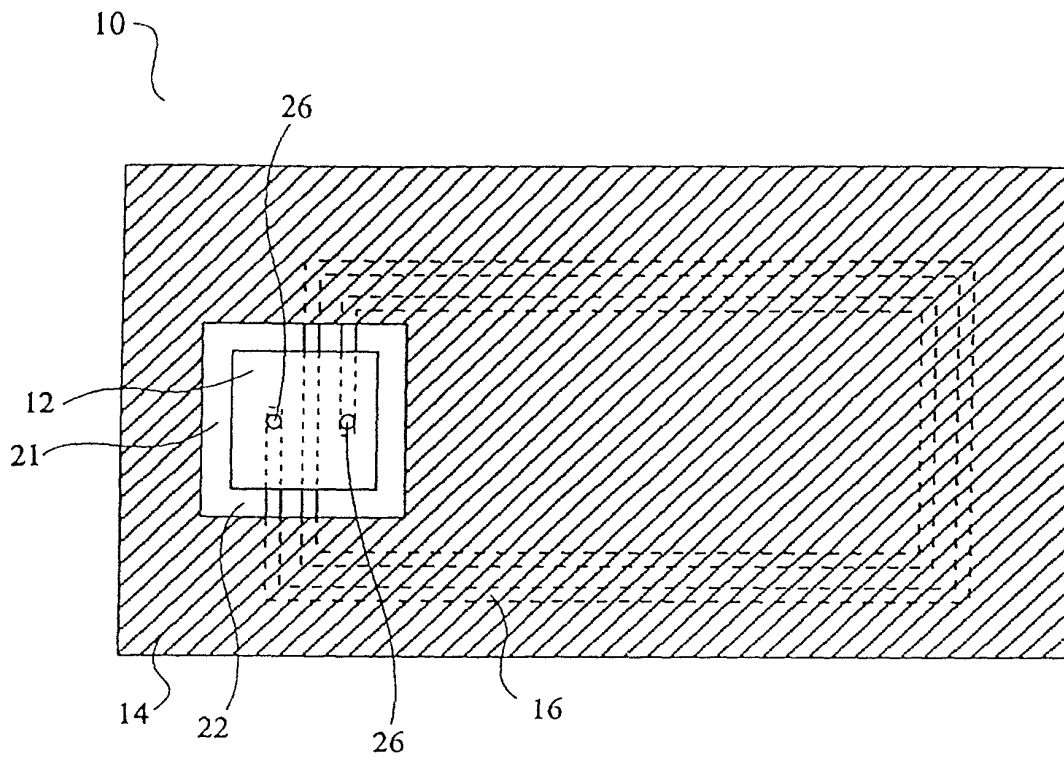


Fig 7

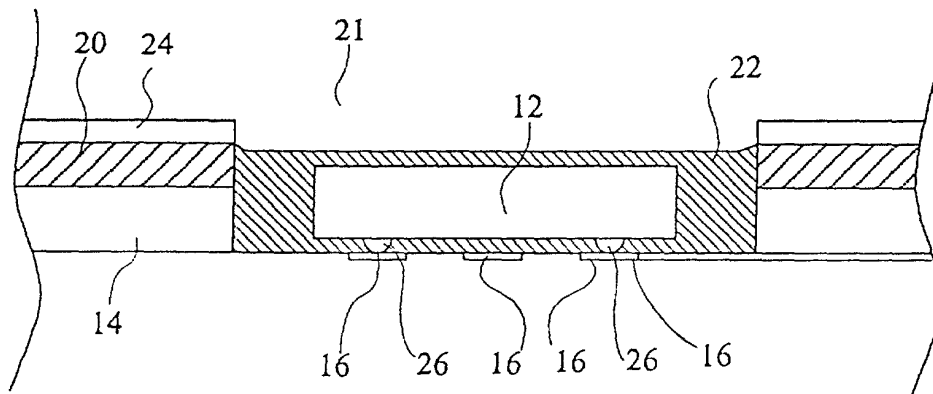


Fig 8

09831792-101801

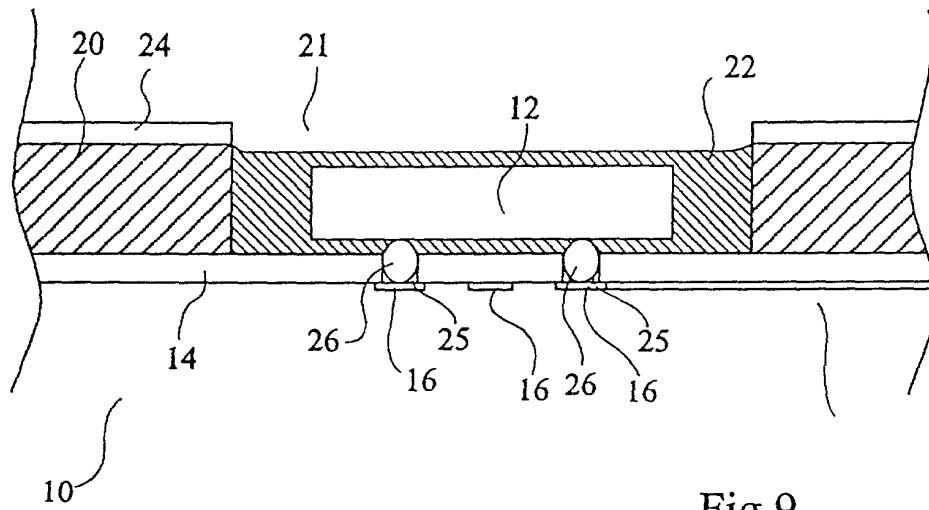


Fig 9

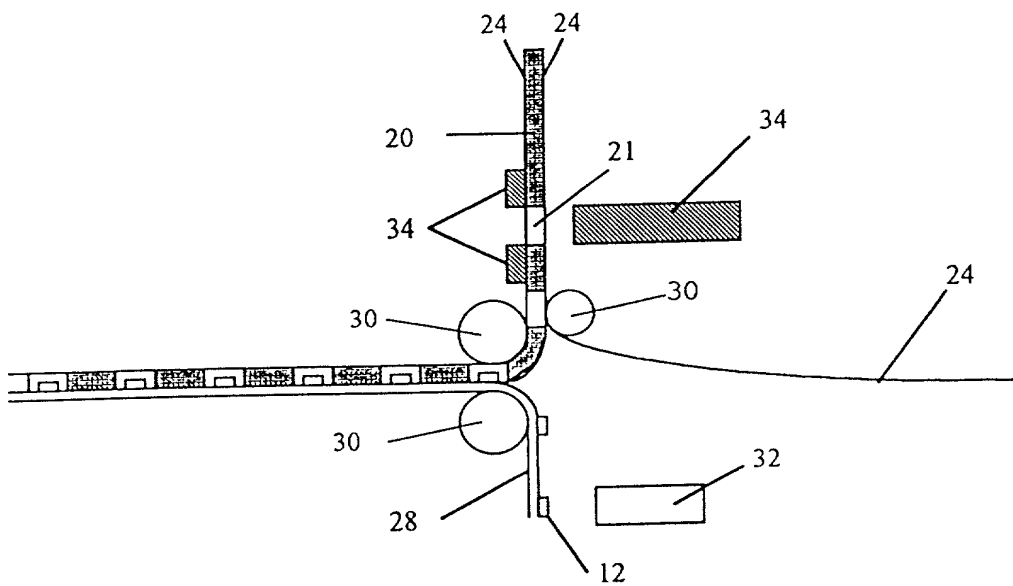


Fig 10

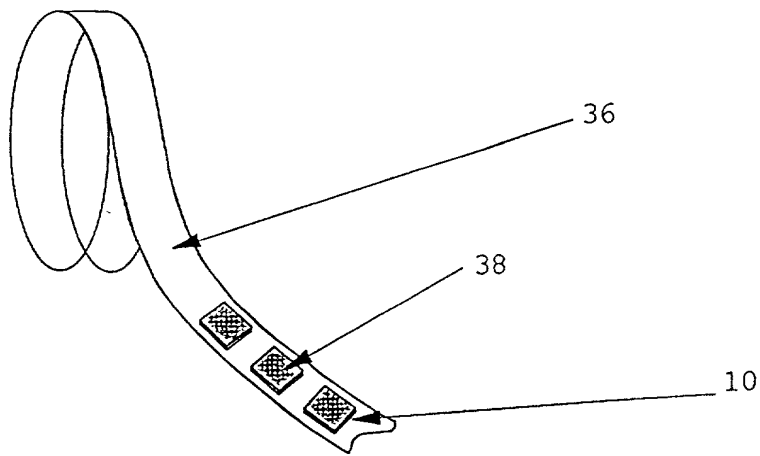
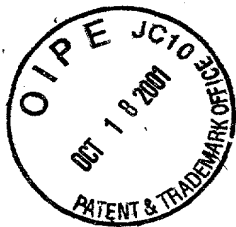


Fig 11

09831792 101801



## Declaration and Power of Attorney for Patent Application

### Déclaration et Pouvoirs pour Demande de Brevet

#### French Language Declaration

En tant que l'inventeur nommé ci-après, je déclare par le présent acte que:

Mon domicile, mon adresse postale, et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée:

SELF-ADHESIVE ELECTRONIC CIRCUIT

et dont la description est fournie ci-joint à moins que la case suivante n'ait été cochée:

☒ a été déposée le 11 MAI 2001 sous le numéro de demande des Etats-Unis ou le numéro de demande international PCT 09/831 792

☐ les spécifications portant le dossier de l'avocat numero \_\_\_\_\_

et modifiée le \_\_\_\_\_  
(le cas échéant).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, §1.56 du Code fédéral des réglementations.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

the specification of which is attached hereto unless one of the following boxes is checked:

☒ was filed on 11 MAY 2001 as United States Application Number or PCT International Number 09/831 792

☐ the specification of which bears attorney docket No. \_\_\_\_\_

and was amended on \_\_\_\_\_  
(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

## French Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, §119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior foreign application(s)

Demande(s) de brevet antérieure(s)

PCT

PCT/FR99/02564

(Number)

(Country)

(Numéro)

(Pays)

98/13545

FRANCE

(Number)

(Country)

(Numéro)

(Pays)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35 §119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.)

(Filing Date)

(N° de demande)

(Date de dépôt)

(Application No.)

(Filing Date)

(N° de demande)

(Date de dépôt)

Je revendique par le présent acte, le bénéfice, en vertu du Titre 35 § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code Fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande:

(Application No.)

(Filing Date)

(N° de Demande)

(Date de Dépôt)

(Application No.)

(Filing Date)

(N° de Demande)

(Date de Dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby claim foreign priority under Title 35, United States Code, §119(a)-(d) or § 365(b) of any foreign applications(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed:

Priority not claimed

21 OCTOBER 1999

Droit de priorité non revendiqué

(Day/Month/Year Filed)

(Jour/Mois/Année de dépôt)

23 OCTOBER 1998

(Day/Month/Year Filed)

(Jour/Mois/Année de dépôt)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or § 365(c) of any PCT international application(s) designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

(Status)(Patented, pending abandoned)

(Statut)(breveté, en cours d'examen, abandonné)

(Status)(Patented, pending abandoned)

(Statut)(breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

## French Language Declaration

POUVOIR: En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'il(s) poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec l'Office des brevets et des marques: (mentionner le nom et le numéro d'enregistrement).

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

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Edward F. Perlman	28,105	Randy J. Pritzker	35,986	Robert E. Rigby, Jr.	41,316	Alan W. Steele	45,128
Lawrence M. Green	29,384	Richard F. Giunta	36,149	Robert A. Skrivaneck, Jr.	40,886	Daniel P. McLoughlin	46,066
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Therese A. Hendricks	30,389	Timothy J. Oyer	36,628	Edward J. Russavage	43,069	Michael J. Pomianek	46,190
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Ronald J. Krandsdorf	20,004	Helen C. Lockhart	39,248	Neil P. Ferraro	39,188	Theodore E. Galanthay	24,122
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